

NOTES ON DISTRIBUTION OF SOME LATIN AMERICAN
COTTON-STAINERS (*DYSDERCUS*: PYRRHOCORIDAE:
HEMIPTERA) AND REMARKS ON THE BIOLOGY OF
DYSDERCUS URBAHNI SCHMIDT

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Abstract.—New geographical distribution data are given for 11 Latin American species of *Dysdercus*, with new country and/or state records for 7 of them. Data on life history and food sources are given for *D. urbahni* Schmidt in a riverine inundation-forest in the Central Amazon, Brazil.

Introduction

Extensive taxonomic and distributional data for Latin American species of *Dysdercus* were given by Ballou (1906), Lima *et al.* (1962), Doesburg (1968), and Beccari and Gerini (1970). Now additional geographic distribution can be given based on specimens recently located or deposited in Museu Paraense Emilio Goeldi (MPEG), Belem, Brazil; Instituto Nacional de Pesquisas da Amazonia (INPA), Manaus, Brazil; and the Smithsonian Institution, National Museum of Natural History (NMNH), Washington, D.C., U.S.A.

The first significant biological data for *Dysdercus urbahni* Schmidt were gathered during 1975-1976 ecological studies in a white water, inundation-forest ("Várzea") near Manaus, Brazil.

Notes on the Distribution of Some Latin American *Dysdercus*

Present new geographic records, some based on identifications by P. H. van Doesburg in 1978, mostly complement the distribution data in Doesburg's (1968) revision of the New World species of *Dysdercus*.

Dysdercus mimus Group

1) *Dysdercus imitator* Blöte

Previous records: Colombia, Venezuela, Ecuador, Peru, Bolivia (Doesburg 1968).

Present records: Brazil-Mato Grosso: Aripuaná (5°07'S, 60°24'W), Reserva Humboldt, III-1977, 1 ♂, W. L. Overal; Chapada dos Guimarães (15°26'S, 55°45'W), 3-II-1961, 1 ♀, J. e B. Bechyné Coll. (all in MPEG).

2) *Dysdercus mimus infuscatus* Blöte

Previous records: British Guiana, Suriname (Doesburg 1968).

Present records: Brazil-Amapá: Macapá, Praia do Araxá, 19-X-1978, 1 ♂/1 ♀, M. F. Torres (MEPG).—Amazonas: Manaus 010 km 232 (=highway Manaus-Itacoatiara km 232), 28-VI-77, 1 ♂, B. Mesearenhas (INPA).—Maranhão: Imperatriz (5°32'S, 47°29'W), 13-VI-1978, 1 ♂, F. F. Ramos; Santa Inês, 05-X-1978, 7 ♂♂/6 ♀♀, F. F. Ramos/P. Celso.—Mato Grosso: Aripuaná, Reserva Humboldt, II-1977, 1 ♂, W. L. Overal.—Pará: Araguaia, Redenção, 25-XI-1978, 1 ♀, W.

França, Belém, Mocambo, 6-V-1977, 1 ♂; 01-III-1977, 1 ♂, P. Waldir; 5-III-1977, 1 ♀, A. Y. Harada. Belém, Mocambo, 19-XII-1977, 2 ♀♀, C. Moreira; XII-1977, 1 ♀, C. Moreira; 02-I-1978, 1 ♀, S. A. Santos. Belém, Parque do Museu, X-1976, 2 ♂♂/1 ♀, W. L. Overall. Belém, Utinga, 22-III-1977, 1 ♀, P. Tadeu; 22-III-1977, 1 ♂, M. F. Torres; 24-III-1977, 1 ♂, M. F. Torres. Rodovia Belém-Brasilia, km 90, F. S. Antonio, 14-II-1976, 1 ♂/9 ♀♀, T. Pimentel; 14-II-1976, 3 ♂♂/3 ♀♀, M. F. Torres; 18-II-1976, 2 ♂♂, M. F. Torres; 26-II-1976, 1 ♂, M. F. Torres. Rodovia Belém-Brasilia, km 90, F. Jaboti, 13-II-1976, 2 ♂♂/2 ♀♀, T. Pimentel; 13-II-1976, 1 ♀, M. F. Torres. Bragança (1°03'S, 46°46'W), 26-IV-1978, 1 ♂, W. L. Overall; 26-V-1978, 3 ♂♂/4 ♀♀, F. F. Ramos/M. F. Torres. Bujaru (1°31'S, 48°01'W), 03-VIII-1978, 2 ♂♂/2 ♀♀, P. Nolasco; 03-VII-1977, 1 ♀, P. Nolasco; 29-VI-1978, 1 ♂, P. Waidir/L. Braak (MPEG). Capitão Poco, 25-II-1978, 2 ♂♂/4 ♀♀, W. Franca/P. Tadeu; 26-II-1978, 1 ♂/5 ♀♀, W. Franca/P. Tadeu; 27-II-1978, 1 ♂/2 ♀♀, W. Franca; 28-II-1978, 1 ♀, W. Franca. Ilha das Oncas (=across Belém), 30-I-1977, 1 ♂, W. L. Overall. Marabá (5°21'S, 49°07'W), 3-VII-1978, 1 ♂/1 ♀, W. Franca. Peixe-Boi (1°12'S, 47°18'W), 24-I-1964, 1 ♀, W. Franca; 15-IV-1977, 1 ♀, P. Waldir; 16-IV-1977, 7 ♂♂/5 ♀♀, P. Waldir; 12-IV-1977, 1 ♂ P. Waldir; 17-IV-1977, 1 ♀, W. L. Overall; Peixe-Boi, 24-I-1964, 1 ♂, W. Franca; 22-IV-1978, 1 ♂, M. F. Torres; 23-IV-1978, 1 ♂/1 ♀, M. F. Torres; 24-IV-1978, 1 ♂, F. F. Ramos; 26-IV-1978, 1 ♀, F. F. Ramos; 27-IV-1978, 1 ♀, N. de Souza. S. J. Pirabas, 27-VII-1978, 1 ♂/1 ♀, M. F. Torres. Santa Isabel (1°41'S, 50°11'W), 29-I-1964, 1 ♂/2 ♀♀, W. Franca. Tucuruí (3°42'S, 49°27'W), 7-VII-1978, 1 ♀, P. Tadeu; 8-VII-1978, 4 ♀♀, R. B. Neto; 21-X-1978, 1 ♂, R. B. Neto; 14-III-1979, 1 ♂, margem esquerda, W. L. Overall (all in MPEG).

These first Brazilian records for this subspecies extend its range coastwise and far inland up the valley of the Amazon River.

Dysdercus flavolimbatus Group

3) *Dysdercus ruficeps* Perty

Previous records: Nicaragua; Costa Rica, Panama, Colombia, Ecuador, Peru, Bolivia, Brazil: Amazon (6 records, only one with exact locality), Pará (4 records, one without exact locality), Rio de Janeiro (1 record; comp. Doesburg 1968, Beccari & Gerini 1970).

Present records: Brazil-Pará: Ananindeua (1°22'S, 48°23'W), III-1956, 1 ♀, C. Carvalho; Belém, Fazenda Velha, 14-V-1977, 1 ♀, M. F. Torres; Belém, Utinga, 22-III-1977, 1 ♀, P. Tadeu; Benevides, VI-1964, 1 ♀, W. Franca; Benevides (1°22'S, 48°15'W), VI-1964, 1 ♀, W. Franca; Bujaru, 01-VII-1977, 1 ♂, P. Waldir/L. Braack; Mosqueiro (1°10'S, 48°28'W), 17-VII-1978, 3 ♂♂/1 ♀, M. F. Torres; Santa Isabel (1°41'S, 50°11'W), 17-XII-1973, 3 ♂♂/3 ♀♀, B. Mascarenhas; 10-II-1974, 5 ♂♂/2 ♀♀, José Queiroz; (all in MPEG).

4) *Dysdercus flavolimbatus flavolimbatus* Stål

Previous records: Mexico, Guatemala, Panamá: Rio Changena, Boca del Toro, 2400 ft., 17-IX-1961, 1 ♂, G. B. Fairchild (comp. Doesburg 1968).

Present record: Panamá-Chiriquí (Dist. Renacimiento): Santa Clara 4000 ft. (8°31'S, 82°39'W), 20-22-V-1977, 1 ♂/2 ♀♀, B. C. Ratcliffe (INPA).

5) *Dysdercus concinnus pehlkei* Schmidt

Previous records: Costa Rica, Venezuela, Colombia, Panamá: La Chorrera, 23-V-1944, K. E. Frick; Lino, 2 ♀ (comp. Doesburg 1968).

Present record: Panamá-Colon: Santa Rita Ridge (9°20'N, 79°48'W), 24-V-1977, 1 ♂, B. C. Ratcliffe (INPA).

Dysdercus maurus group6) *Dysdercus obscuratus flavipennis* Blöte

Previous records: Panamá, Colombia, Ecuador, Venezuela (Doesburg 1968).

Present record: Brazil-Mato Grosso: Chapada dos Guimarães (15°26'S, 55°45'W), 5-II-1961, 1 ♀, J. e B. Bechyné (MPEG).

7) *Dysdercus honestus* Blöte

Previous records: Peru, Colombia, Venezuela, Suriname, Paraguay, Bolivia, Brazil: Amapá (1 record), Bahia, Espirito Santo, Goiás (5 records), Mato Grosso (1 record without exact locality), Minas Gerais, Pará (3 records), Rio de Janeiro, Sta. Catharina (comp. Doesburg 1968).

Present records: Brazil-Goiás: Pirineus, 2-II-1962, 1 ♀; Paraiso, 9-II-1962, 1 ♀, J. e B. Bechyné.—Maranhão: Buriticupu (4°13'S, 46°33'W), 30-IX-1978, 1 ♂, M. F. Torres.—Mato Grosso: Chapada dos Guimarães (15°26'S, 55°45'W), 19-I-1961, 1 ♀, J. e B. Bechyné; 21-I-1961, 1 ♀, J. e B. Bechyné; 5-II-1961, 1 ♀, J. e B. Bechyné (all in MPEG). Rio (=Res.) Humboldt, Estrada do Porto (=Cidade Humboldt; 5°07'S, 60°24'W), 1 ♂, L. Albuquerque, nr. 0240 (INPA); Rio Humboldt, Estrada Dir. Aeroporto (=Cidade Humboldt), 26-I-1976, 1 ♂, (NMNH); Fazenda Ric. Franco, 6-III-1961, 1 ♂, J. e B. Bechyné; 7-III-1961, 1 ♂/1 ♀, J. e B. Bechyné; 15-III-1961, 1 ♀, J. e B. Bechyné.—Pará: Tucuruí (2°53'S, 52°0'W) 14-III-1979, 1 ♀, W. L. Overall, "margem esquerda" (both in MPEG).

Observation: The state record for Maranhão is the first record of *D. honestus* in the northeast of Brazil (comp. Doesburg 1968, fig. 174).

8) *Dysdercus ruficollis* (Linnaeus)

Previous records: British Guiana, Suriname, Argentina, Paraguay, Brazil: Amazonas, Bahia, Distrito Federal, Espirito Santo, Goiás, Guanabara, Minas Gerais, Paraná, Rio de Janeiro, Rio Grande do Sul, São Paulo, Sta. Catharina (comp. Doesburg 1968).

Present records: Brazil-Maranhão: Imperatriz (5°32'S, 47°29'W), 13-VI-1978, 7 ♂♂/8 ♀♀, M. F. Torres/F. F. Ramos/R. B. Neto, (MPEG).—Rio de Janeiro: Manguinhos, 30-V-1967, 1 ♂/2 ♀♀, L. P. Albuquerque; IV-1967, 1 ♂, L. P. Albuquerque (INPA); Petrópolis, 5-III-1962, 1 ♀, J. e B. Bechyné (MPEG).

Observation: The first state record for Maranhão indicates the presence of *D. ruficollis* in the northeast of Brazil (comp. Doesburg 1968, fig. 210).

Dysdercus albofasciatus group9) *Dysdercus goyanus* Doesburg

Previous record (comp. Doesburg 1968): Brazil-Goiás: Jatahy (Iatai). Clermont vend. (1 ♂, holotype).

Present record: Brazil-Mato Grosso: Cuiabá (15°35'S, 56°05'W), 22-III-1961, 1 ♂, J. e B. Bechyné (MPEG).

Dysdercus fernaldi group10) *Dysdercus urbahni* Schmidt

Previous records: Brazil: Amazonas, Pará (comp. Doesburg 1968).

Present records: Brazil-Amapá: Macapá, Pacoval, 07-XI-1978, 1 ♂, W. Franca (MPEG).—Amazonas: Ilha de Curari (Rio Solimões), 10-VII-1979, 1 ♂/1 ♀/6 nymphs (all in alcohol), J. Adis “em sementes de *Pseudobombax munguba* caídas no solo”; Iranduba, Rio Solimões, 29-IX-1962, 3 ♂♂, J. Dellome, no. 2471; Estr. AM 1 (=Manaus-Itacoatiara) km 180, 21-X-1965, 1 ♂, F. Antonio; Estr. AM 1 km 244, 11-I-1977, 1 ♂, B. C. Ratcliffe; Urucury, Codajás, XII-1963, 1 ♂, Eduardo, no. 2552.—Mato Grosso: Aripuaná (=Cidade Humboldt; (5°07'S, 60°24'W), Estrada do Porto, 1 ♂, L. P. Albuquerque/E. Rufino, no. 0180 (all in INPA).

Observation: The state record for Mato Grosso indicates the presence of *D. urbahni* in the southern Amazon region. (comp. Doesburg 1968, fig. 242). For biology notes see p. 9.

11) *Dysdercus fernaldi fuscofasciatus* Blöte

Previous records: Venezuela, British Guiana, Suriname, French Guiana, Brazil: Amazonas, Pará (1 record without exact locality), São Paulo (comp. Doesburg 1968).

Present records: Brazil-A Amazonas: Urucury, Codajás, (6°46'S, 64°35'W), XII-1963, 5 ♂♂/5 ♀♀, Eduardo, no. 2551 (INPA).—Pará: Ilha das Oncas (=across Belém), 7-II-1977, 1 ♂, W. L. Overal; 30-II-1977, 1 ♀, W. L. Overal (MPEG).

Notes on the Biology of *Dysdercus urbahni* Schmidt

The following information comprises the first biological observations recorded for *Dysdercus urbahni*. The species has been collected mainly along rivers (black water; e.g. Rio Negro; white water: e.g. Rio Solimões) and on “terra firme” (e.g. Reserva Ducke, Manaus) in the Amazon area. The observations were made during ecological fieldwork in a white water, inundation forest on the Solimões River near Manaus (Adis 1977 and 1979). Here the season can be divided into an inundation phase, when the forest may flood to a depth of 4 m, and a non-inundation phase. The inundation phase occurs March to August when the receding waters mark the end of the inundation phase and the beginning of the non-inundation phase. The latter begins with a dry period that lasts until December when the rainy period of the non-inundation phase begins the accumulation of waters for the beginning new inundation phase in March.

Fruits of the tree *Pseudobombax munguba* were found to be the main source of nutrition for *D. urbahni* during the dry season of the non-inundation phase. These trees lose their leaves during the beginning of the inundation phase, and by June and July produce flowers and leaf buds, the fruit being formed and dropped from the trees between August and October—the end of the inundation phase until the beginning of the non-inundation phase.

Adults of *D. urbahni* appeared on the forest floor during the first week of the non-inundation phase (the dry season); there they mated, usually near fallen “Munguba” fruits. The females laid their eggs in chapped fruits or on the soil beneath and beside open or still closed fruits. Apparently fruits in the canopy

were not attacked. After 5–6 days first instar nymphs could be found; new generation adults began to appear after about 6 weeks [compare with the 42–55 days reported for *D. delauneyi* Lethierry by Ballou 1906]. One chapped fruit may contain as many as 1000 nymphs of all instars, while the average was 400 nymphs per fruit (=61)!

Dead adults of the former generation were found near “Munguba” fruits 3–4 weeks after the forest dried up. At this time, the gregarious nymphs, migrating on the forest floor, found newly dropped and already chapped fruits and fed on the contained seeds. Field and laboratory experiments found that newly hatched nymphs and adults preferred ripe but still soft seeds over dry or hard seeds; and if no seeds were available they would feed on dead arthropods. Eight to ten weeks after the forest had dried up, nearly all nymphs had transformed to adults which frequented herbs, shrubs and young trees of the forest for another 2–3 weeks but then disappeared until the end of the dry season in November. Within the rainy season of the non-inundation phase (December until March), adults were seen only sporadically.

For the period from December to August, which also includes the inundation phase, the source of nutrition for these insects is unknown. *Pseudobombax munguba* is restricted to white water, inundation-forest (“Várzea”); hence at other localities, e.g., along blackwater rivers or on “terra firme” areas, different plants or “Munguba” species must provide reproductive sites and food sources for *D. urbahni*.

Previous publications reported Bombacaceae to be visited by at least nine other *Dysdercus* species (comp. Doesburg 1968, pp. 184–189; Silva *et al.* 1968 pp. 53–56): *D. fernaldi fuscofasciatus* Blöte (*Bombax globosum*; Suriname), *D. fulvoniiger* (De Geer) (*Bombax globosum*; Suriname), *D. fulvoniiger discolor* Walker (*Bombax malabaricum*), *D. honestus* Blöte (“Sumaúma,” Brazil), *D. longirostris* Stal (“Sumaúma,” Brazil), *D. maurus distant* (*Bombax globosum*; Suriname), *D. mimus* (Say) (*Bombax globosum* (“Sumaúma”); Belém, Brazil). *D. mimus distant* Blöte (sucking on seeds of “Sumaúma” which had fallen to the floor; Pará, Brazil), *D. ruficollis* (*Bombax ventricosa*) and *Dysdercus* spp. (*Bombax discolor*).

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